updated search
LKcook 9/16/05
09/970,453

d his

(FILE 'HOME' ENTERED AT 14:20:31 ON 16 SEP 2005)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, CANCERLIT, JAPIO' ENTERED AT 14:20:55 ON 16 SEP 2005

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L1          576 S (MICROFLUIDIC?) AND VELOCIT?
L2          219 S L1 AND TIME?
L3           41 S L1 AND ZONE?
L4           23 S L2 AND L3
L5           10 DUPLICATE REMOVE L4 (13 DUPLICATES REMOVED)
L6         6858 S VELOCIT? AND NORMALIZ?
L7            3 S L6 AND L1
L8            1 DUPLICATE REMOVE L7 (2 DUPLICATES REMOVED)
L9            0 S (NOMALIZ? VELOCIT?)
L10         164 S (NORMALIZ? VELOCIT?)
L11          10 S L10 AND FLUID?
L12          10 DUPLICATE REMOVE L11 (0 DUPLICATES REMOVED)
L13         160 S L2 AND FLOW?
L14          93 DUPLICATE REMOVE L13 (67 DUPLICATES REMOVED)
L15          12 S L14 AND ANALYTE?
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     FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, CANCERLIT, JAPIO' ENTERED AT
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L1          576 S (MICROFLUIDIC?) AND VELOCIT?
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L6         6858 S VELOCIT? AND NORMALIZ?
L7            3 S L6 AND L1
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L9            0 S (NOMALIZ? VELOCIT?)
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L13         160 S L2 AND FLOW?
L14          93 DUPLICATE REMOVE L13 (67 DUPLICATES REMOVED)
L15          12 S L14 AND ANALYTE?

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LYCook 9/16/05

ANSWER 9 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:667617 CAPLUS

DN 133:260878

ED Entered STN: 25 Sep 2000

TI Voltammetry on **microfluidic** chip platforms

AU Wang, Joseph; Polsky, Ronen; Tian, Baomin; Chatrathi, Madhu Prakash

CS Department of Chemistry and Biochemistry, New Mexico State University, Las Cruces, NM, 88003, USA

SO Analytical Chemistry (2000), 72(21), 5285-5289
CODEN: ANCHAM; ISSN: 0003-2700

PB American Chemical Society

DT Journal

LA English

priority 11/1/00

CC 80-2 (Organic Analytical Chemistry)
Section cross-reference(s): 50, 72, 79

AB **Microfluidic** chip devices are attractive platforms for performing microscale voltammetric anal. and for integrating voltammetric procedures with on-chip chemical reactions and fluid manipulations. Linear-sweep, square-wave, and adsorptive-stripping voltammograms are recorded while electrokinetically pumping the sample through the microchannels. The adaptation of voltammetric techniques to **microfluidic** chip operation requires an assessment of the effect of relevant exptl. variables, particularly the high voltage used for driving the electroosmotic **flow**, upon the background current, potential window, and size or potential of the voltammetric signal. The exact potential window of the chip detector is dependent upon the driving voltage. Manipulation of the electroosmotic **flow** opens the door to hydrodynamic modulation (stopped-**flow**) and reversed-**flow** operations. The modulated **analyte velocity** permits compensation of the microchip voltammetric background. Reversal of the driving voltage polarity offers extended residence **times** in the detector compartment. Rapid square-wave voltammetry/**flow** injection operation allows a detection limit of 2 .**times**. 10-12 mol (i.e., 2 pmol) of 2,4,6-trinitrotoluene (TNT) in connection with 47 nL of injected sample. The ability of integrating chemical reactions with voltammetric detection is demonstrated for adsorptive stripping measurements of trace nickel using the nickel-dimethylglyoxime model system. The voltammetric response was characterized using catechol, hydrazine, TNT, and nickel as test species. The ability to perform on-chip voltammertic protocols is advantageous over nanovial voltammetric operations that lack a liquid-handling capability. Coupling the versatility of **microfluidic** chips with the rich information content of voltammetry thus opens an array of future opportunities.

ST voltammetry **microfluidic** chip platform

IT Stripping voltammetry
(adsorptive; voltammetry on **microfluidic** chip platforms)

IT Voltammetry
Voltammetry
(apparatus; voltammetry on **microfluidic** chip platforms)

IT Electrolytic cells
Electrolytic cells
(voltammetric; voltammetry on **microfluidic** chip platforms)

IT Square wave voltammetry
(voltammetry on **microfluidic** chip platforms)

IT 7440-02-0, Nickel, analysis
RL: ANT (Analyte); ANST (Analytical study)
(nickel-dimethylglyoxime model system; voltammetry on **microfluidic** chip platforms for trace anal. for)

IT 95-45-4, Dimethylglyoxime
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(nickel-dimethylglyoxime model system; voltammetry on **microfluidic** chip platforms for trace anal. for nickel)

IT 118-96-7, 2,4,6-Trinitrotoluene 120-80-9, Catechol, analysis 302-01-2,

ANSWER 9 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2000:667617 CAPLUS
DN 133:260878
ED Entered STN: 25 Sep 2000
TI Voltammetry on **microfluidic** chip platforms
AU Wang, Joseph; Polsky, Ronen; Tian, Baomin; Chatrathi, Madhu Prakash
CS Department of Chemistry and Biochemistry, New Mexico State University, Las Cruces, NM, 88003, USA
SO Analytical Chemistry (2000), 72(21), 5285-5289
CODEN: ANCHAM; ISSN: 0003-2700
PB American Chemical Society
DT Journal
LA English
CC 80-2 (Organic Analytical Chemistry)
Section cross-reference(s): 50, 72, 79

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ST voltammetry **microfluidic** chip platform
IT Stripping voltammetry
    (adsorptive; voltammetry on **microfluidic** chip platforms)
IT Voltammetry
Voltammetry
    (apparatus; voltammetry on **microfluidic** chip platforms)
IT Electrolytic cells
Electrolytic cells
    (voltammetric; voltammetry on **microfluidic** chip platforms)
IT Square wave voltammetry
    (voltammetry on **microfluidic** chip platforms)
IT 7440-02-0, Nickel, analysis
RL: ANT (Analyte); ANST (Analytical study)
    (nickel-dimethylglyoxime model system; voltammetry on **microfluidic** chip platforms for trace anal. for)
IT 95-45-4, Dimethylglyoxime
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
    (nickel-dimethylglyoxime model system; voltammetry on **microfluidic** chip platforms for trace anal.. for nickel)
IT 118-96-7, 2,4,6-Trinitrotoluene 120-80-9, Catechol, analysis 302-01-2,

Hydrazine, analysis
RL: ANT (Analyte); ANST (Analytical study)
(voltammetry on **microfluidic** chip platforms for trace anal. for)

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Blaedel, W; Anal Chem 1971, V43, P1538 CAPLUS
(2) Bratten, C; Anal Chem 1997, V69, P253 CAPLUS
(3) Chiem, N; Anal Chem 1997, V69, P373 CAPLUS
(4) Clark, R; Anal Chem 1997, V69, P259 CAPLUS
(5) Freemantle, M; Chem Eng News 1999, Feb 22, P27
(6) Hadd, A; Anal Chem 1997, V69, P3407 CAPLUS
(7) Jakeway, S; Fresenius J Anal Chem 2000, V366, P525 CAPLUS
(8) Matysik, F; J Chromatogr, A 1996, V742, P229 CAPLUS
(9) Olson, D; Anal Chem 1999, V71, P3070 CAPLUS
(10) Paneli, M; Electroanalysis 1993, V5, P535
(11) Ramsey, R; Anal Chem 1997, V69, P1174 CAPLUS
(12) Rios, A; Anal Chem 1988, V60, P1540 CAPLUS
(13) Samuelsson, R; Anal Chem 1980, V52, P2215 CAPLUS
(14) Wallenborg, S; Anal Chem 1999, V71, P544 CAPLUS
(15) Wallenborg, S; Anal Chem 2000, V72, P1872 CAPLUS
(16) Wang, J; Anal Chem 1999, V71, P3901 CAPLUS
(17) Wang, J; Analytical Electrochemistry 1994
(18) Wang, J; Electroanalysis 1990, V2, P127 CAPLUS
(19) Wang, J; Talanta 1981, V28, P369 CAPLUS
(20) Wang, S; Anal Chem 2000, V72, P1448 CAPLUS
(21) Woolley, A; Anal Chem 1998, V70, P684 CAPLUS

Hydrazine, analysis
RL: ANT (Analyte); ANST (Analytical study)
(voltammetry on **microfluidic** chip platforms for trace anal. for)

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD

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(3) Chiem, N; Anal Chem 1997, V69, P373 CAPLUS
(4) Clark, R; Anal Chem 1997, V69, P259 CAPLUS
(5) Freemantle, M; Chem Eng News 1999, Feb 22, P27
(6) Hadd, A; Anal Chem 1997, V69, P3407 CAPLUS
(7) Jakeway, S; Fresenius J Anal Chem 2000, V366, P525 CAPLUS
(8) Matysik, F; J Chromatogr, A 1996, V742, P229 CAPLUS
(9) Olson, D; Anal Chem 1999, V71, P3070 CAPLUS
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(13) Samuelsson, R; Anal Chem 1980, V52, P2215 CAPLUS
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(17) Wang, J; Analytical Electrochemistry 1994
(18) Wang, J; Electroanalysis 1990, V2, P127 CAPLUS
(19) Wang, J; Talanta 1981, V28, P369 CAPLUS
(20) Wang, S; Anal Chem 2000, V72, P1448 CAPLUS
(21) Woolley, A; Anal Chem 1998, V70, P684 CAPLUS

ANSWER 5 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:688926 CAPLUS
DN 139:193947
ED Entered STN: 04 Sep 2003
TI Apparatus and method for correcting for variable **velocity** in **microfluidic** systems
IN Kopf-Sill, Anne R.; Chow, Andrea W.; Jaffe, Claudia B.; Sunberg, Steven A.; Parce, John Wallace
PA Caliper Technologies Corp., USA
SO U.S., 55 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C12Q001-68
ICS G01N021-00; G01N033-558; G01F005-00; G01P003-36
INCL 435006000; 435007100; 435007210; 435007900; 435287100; 435287200; 435288300; 435288400; 435288700; 435810000
CC 9-1 (Biochemical Methods)
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6613512	B1	20030902	US 2000-445638	20001205
	WO 9856956	A1	19981217	WO 1998-US11969	19980609

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	AU 747713	B2	20020523	AU 2000-71755	20001122
PRAI	US 1997-49013P	P	19970609		
	US 1998-76468P	P	19980302		
	WO 1998-US11969	W	19980609		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6613512	ICM	C12Q001-68
	ICS	G01N021-00; G01N033-558; G01F005-00; G01P003-36
	INCL	435006000; 435007100; 435007210; 435007900; 435287100; 435287200; 435288300; 435288400; 435288700; 435810000
US 6613512	NCL	435/006.000; 204/193.000; 204/194.000; 204/400.000; 204/409.000; 204/412.000; 204/451.000; 204/455.000; 204/601.000; 205/777.500; 210/451.000; 210/505.000; 422/050.000; 422/052.000; 422/055.000; 422/057.000; 422/058.000; 422/068.100; 422/073.000; 422/082.000; 422/082.010; 422/082.090; 422/102.000; 422/108.000; 422/119.000; 435/004.000; 435/007.100; 435/007.210; 435/007.900; 435/287.100; 435/287.200; 435/288.300; 435/288.400; 435/288.700; 435/810.000; 436/004.000; 436/006.000; 436/149.000; 436/150.000; 436/151.000; 436/164.000; 436/165.000; 436/172.000; 436/501.000; 436/514.000; 436/518.000; 436/519.000; 436/527.000; 436/531.000; 436/535.000; 436/805.000; 436/809.000
	ECLA	B01J019/00R; B01L003/00C6M; G01N033/557
WO 9856956	ECLA	B01L003/00C6; B01L003/00C6E; B01L003/00C6M; G01N027/447; G01N027/447B3A2; G01N027/447C7; G01N033/557

AB Electrokinetic devices having a computer for correcting for electrokinetic effects are provided. Methods of correcting for electrokinetic effects by establishing the **velocity** of reactants and products in a reaction in electrokinetic **microfluidic** devices are also

provided. These **microfluidic** devices can have substrates with channels, depressions, and/or wells for moving, mixing and monitoring precise amts. of **analyte** fluids.

ST app correcting **velocity microfluidic** system

IT Apparatus
  (Electrokinetic **microfluidic**; apparatus and method for correcting for variable **velocity** in **microfluidic** systems)

IT Apparatus
  (**Microfluidic**; apparatus and method for correcting for variable **velocity** in **microfluidic** systems)

IT Analysis
  (Non-fluorogenic; apparatus and method for correcting for variable **velocity** in **microfluidic** systems)

IT Apparatus
Computer program
Computers
Concentration (condition)
Electrokinetic phenomena
Flow
Fluids
Fluorescence
Fluorescent dyes
Fluorometry
Fluxes
Heat
Labels
Light
Mathematical methods
Mixing
Reaction
Sampling
Time
Velocity
Wells
  (apparatus and method for correcting for variable **velocity** in **microfluidic** systems)

IT Acids, uses
Bases, uses
RL: NUU (Other use, unclassified); USES (Uses)
  (apparatus and method for correcting for variable **velocity** in **microfluidic** systems)

IT Mathematical methods
  (deconvolution method; apparatus and method for correcting for variable **velocity** in **microfluidic** systems)

IT 58-85-5, Biotin 9013-20-1, Streptavidin
RL: RCT (Reactant); RACT (Reactant or reagent)
  (apparatus and method for correcting for variable **velocity** in **microfluidic** systems)

RE.CNT 68 THERE ARE 68 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Anon; WO 9407132 1994 CAPLUS
(2) Anon; WO 9604547 1996 CAPLUS
(3) Anon; WO 9702357 1997 CAPLUS
(4) Anon; WO 9800231 1998 CAPLUS
(5) Anon; WO 9800705 1998 CAPLUS
(6) Anon; WO 9800707 1998 CAPLUS
(7) Anon; WO 9802728 1998
(8) Anon; WO 9805424 1998 CAPLUS
(9) Anon; WO 9822811 1998 CAPLUS
(10) Anon; WO 9845481 1998 CAPLUS
(11) Anon; WO 9845929 1998 CAPLUS
(12) Anon; WO 9846438 1998
(13) Anon; WO 9849548 1998

provided. These **microfluidic** devices can have substrates with channels, depressions, and/or wells for moving, mixing and monitoring precise amts. of **analyte** fluids.

ST app correcting **velocity microfluidic** system

IT Apparatus
(Electrokinetic **microfluidic**; apparatus and method for correcting for variable **velocity** in **microfluidic** systems)

IT Apparatus
(**Microfluidic**; apparatus and method for correcting for variable **velocity** in **microfluidic** systems)

IT Analysis
(Non-fluorogenic; apparatus and method for correcting for variable **velocity** in **microfluidic** systems)

IT Apparatus
Computer program
Computers
Concentration (condition)
Electrokinetic phenomena
Flow
Fluids
Fluorescence
Fluorescent dyes
Fluorometry
Fluxes
Heat
Labels
Light
Mathematical methods
Mixing
Reaction
Sampling
Time
Velocity
Wells
(apparatus and method for correcting for variable **velocity** in **microfluidic** systems)

IT Acids, uses
Bases, uses
RL: NUU (Other use, unclassified); USES (Uses)
(apparatus and method for correcting for variable **velocity** in **microfluidic** systems)

IT Mathematical methods
(deconvolution method; apparatus and method for correcting for variable **velocity** in **microfluidic** systems)

IT 58-85-5, Biotin 9013-20-1, Streptavidin
RL: RCT (Reactant); RACT (Reactant or reagent)
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(5) Anon; WO 9800705 1998 CAPLUS
(6) Anon; WO 9800707 1998 CAPLUS
(7) Anon; WO 9802728 1998
(8) Anon; WO 9805424 1998 CAPLUS
(9) Anon; WO 9822811 1998 CAPLUS
(10) Anon; WO 9845481 1998 CAPLUS
(11) Anon; WO 9845929 1998 CAPLUS
(12) Anon; WO 9846438 1998
(13) Anon; WO 9849548 1998

(14) Anon; WO 9855852 1998
(15) Anon; WO 9856956 1998 CAPLUS
(16) Anon; WO 9900649 1999
(17) Anon; WO 9910735 1999 CAPLUS
(18) Anon; WO 9912016 1999 CAPLUS
(19) Anon; WO 9916162 1999
(20) Anon; WO 9919056 1999
(21) Anon; WO 9919516 1999 CAPLUS
(22) Anon; WO 9929497 1999
(23) Anon; WO 9956954 1999 CAPLUS
(24) Bao; US 5810985 A 1998 CAPLUS
(25) Batchelder; US 4390403 A 1983 CAPLUS
(26) Cherukuri; US 5603351 A 1997 CAPLUS
(27) Chow; US 5800690 A 1998 CAPLUS
(28) Chow; US 5955028 A 1999 CAPLUS
(29) Cohen, C; Anal Chem 1999, V273, P89 CAPLUS
(30) Dasgupta; US 5316630 A 1994 CAPLUS
(31) Dasgupta, P; Anal Chem 1994, V66, P1792 CAPLUS
(32) Dubrow; US 5948227 A 1999 CAPLUS
(33) Frankel; US 5637458 A 1997 CAPLUS
(34) Harpster; US 4942763 A 1990
(35) Hillman; US 4756884 A 1988
(36) Jacobson, S; Anal Chem 1995, V67, P2059 CAPLUS
(37) Jensen; US 5959291 A 1999
(38) Johnson; US 5526109 A 1996
(39) Kennedy; US 5876675 A 1999
(40) Kopf-Sill; US 5842787 A 1998
(41) Kopf-Sill; US 5957579 A 1999
(42) Kunz; US 5442169 A 1995
(43) Manz, A; J Micromech Microeng 1994, V4, P257 CAPLUS
(44) McReynolds; US 5882465 A 1999
(45) Miller; US 5322799 A 1994
(46) Nikiforov; US 5958694 A 1999 CAPLUS
(47) Pace; US 4908112 A 1990 CAPLUS
(48) Parce; US 5699157 A 1997
(49) Parce; US 5779868 A 1998 CAPLUS
(50) Parce; US 5852495 A 1998
(51) Parce; US 5869004 A 1999 CAPLUS
(52) Parce; US 5880071 A 1999 CAPLUS
(53) Parce; US 5885470 A 1999
(54) Parce; US 5942443 A 1999 CAPLUS
(55) Parce; US 5958203 A 1999 CAPLUS
(56) Ramsey, J; Nature Med 1995, V1, P1093 CAPLUS
(57) Regnier; US 5958202 A 1999 CAPLUS
(58) Seiler, K; Anal Chem 1993, V65, P1481 CAPLUS
(59) Seiler, K; Anal Chem 1994, V66, P3485 CAPLUS
(60) Shieh; US 5391274 A 1995 CAPLUS
(61) Soane; US 5126022 A 1992 CAPLUS
(62) Soane; US 5750015 A 1998 CAPLUS
(63) Swedberg; US 5571410 A 1996 CAPLUS
(64) Wilding; US 5498392 A 1996 CAPLUS
(65) Wilding; US 5635358 A 1997 CAPLUS
(66) Wilding; US 5637469 A 1997 CAPLUS
(67) Zanzucchi; US 5585069 A 1996 CAPLUS
(68) Zanzucchi; US 5593838 A 1997 CAPLUS

(14) Anon; WO 9855852 1998
(15) Anon; WO 9856956 1998 CAPLUS
(16) Anon; WO 9900649 1999
(17) Anon; WO 9910735 1999 CAPLUS
(18) Anon; WO 9912016 1999 CAPLUS
(19) Anon; WO 9916162 1999
(20) Anon; WO 9919056 1999
(21) Anon; WO 9919516 1999 CAPLUS
(22) Anon; WO 9929497 1999
(23) Anon; WO 9956954 1999 CAPLUS
(24) Bao; US 5810985 A 1998 CAPLUS
(25) Batchelder; US 4390403 A 1983 CAPLUS
(26) Cherukuri; US 5603351 A 1997 CAPLUS
(27) Chow; US 5800690 A 1998 CAPLUS
(28) Chow; US 5955028 A 1999 CAPLUS
(29) Cohen, C; Anal Chem 1999, V273, P89 CAPLUS
(30) Dasgupta; US 5316630 A 1994 CAPLUS
(31) Dasgupta, P; Anal Chem 1994, V66, P1792 CAPLUS
(32) Dubrow; US 5948227 A 1999 CAPLUS
(33) Frankel; US 5637458 A 1997 CAPLUS
(34) Harpster; US 4942763 A 1990
(35) Hillman; US 4756884 A 1988
(36) Jacobson, S; Anal Chem 1995, V67, P2059 CAPLUS
(37) Jensen; US 5959291 A 1999
(38) Johnson; US 5526109 A 1996
(39) Kennedy; US 5876675 A 1999
(40) Kopf-Sill; US 5842787 A 1998
(41) Kopf-Sill; US 5957579 A 1999
(42) Kunz; US 5442169 A 1995
(43) Manz, A; J Micromech Microeng 1994, V4, P257 CAPLUS
(44) McReynolds; US 5882465 A 1999
(45) Miller; US 5322799 A 1994
(46) Nikiforov; US 5958694 A 1999 CAPLUS
(47) Pace; US 4908112 A 1990 CAPLUS
(48) Parce; US 5699157 A 1997
(49) Parce; US 5779868 A 1998 CAPLUS
(50) Parce; US 5852495 A 1998
(51) Parce; US 5869004 A 1999 CAPLUS
(52) Parce; US 5880071 A 1999 CAPLUS
(53) Parce; US 5885470 A 1999
(54) Parce; US 5942443 A 1999 CAPLUS
(55) Parce; US 5958203 A 1999 CAPLUS
(56) Ramsey, J; Nature Med 1995, V1, P1093 CAPLUS
(57) Regnier; US 5958202 A 1999 CAPLUS
(58) Seiler, K; Anal Chem 1993, V65, P1481 CAPLUS
(59) Seiler, K; Anal Chem 1994, V66, P3485 CAPLUS
(60) Shieh; US 5391274 A 1995 CAPLUS
(61) Soane; US 5126022 A 1992 CAPLUS
(62) Soane; US 5750015 A 1998 CAPLUS
(63) Swedberg; US 5571410 A 1996 CAPLUS
(64) Wilding; US 5498392 A 1996 CAPLUS
(65) Wilding; US 5635358 A 1997 CAPLUS
(66) Wilding; US 5637469 A 1997 CAPLUS
(67) Zanzucchi; US 5585069 A 1996 CAPLUS
(68) Zanzucchi; US 5593838 A 1997 CAPLUS

ANSWER 5 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:688926 CAPLUS
DN 139:193947
ED Entered STN: 04 Sep 2003
TI Apparatus and method for correcting for variable **velocity** in **microfluidic** systems
IN Kopf-Sill, Anne R.; Chow, Andrea W.; Jaffe, Claudia B.; Sunberg, Steven A.; Parce, John Wallace
PA Caliper Technologies Corp., USA
SO U.S., 55 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C12Q001-68
ICS G01N021-00; G01N033-558; G01F005-00; G01P003-36
INCL 435006000; 435007100; 435007210; 435007900; 435287100; 435287200; 435288300; 435288400; 435288700; 435810000
CC 9-1 (Biochemical Methods)
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6613512	B1	20030902	US 2000-445638	20001205
	WO 9856956	A1	19981217	WO 1998-US11969	19980609

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	AU 747713	B2	20020523	AU 2000-71755	20001122
PRAI	US 1997-49013P	P	19970609		
	US 1998-76468P	P	19980302		
	WO 1998-US11969	W	19980609		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6613512	ICM	C12Q001-68
	ICS	G01N021-00; G01N033-558; G01F005-00; G01P003-36
	INCL	435006000; 435007100; 435007210; 435007900; 435287100; 435287200; 435288300; 435288400; 435288700; 435810000
US 6613512	NCL	435/006.000; 204/193.000; 204/194.000; 204/400.000; 204/409.000; 204/412.000; 204/451.000; 204/455.000; 204/601.000; 205/777.500; 210/451.000; 210/505.000; 422/050.000; 422/052.000; 422/055.000; 422/057.000; 422/058.000; 422/068.100; 422/073.000; 422/082.000; 422/082.010; 422/082.090; 422/102.000; 422/108.000; 422/119.000; 435/004.000; 435/007.100; 435/007.210; 435/007.900; 435/287.100; 435/287.200; 435/288.300; 435/288.400; 435/288.700; 435/810.000; 436/004.000; 436/006.000; 436/149.000; 436/150.000; 436/151.000; 436/164.000; 436/165.000; 436/172.000; 436/501.000; 436/514.000; 436/518.000; 436/519.000; 436/527.000; 436/531.000; 436/535.000; 436/805.000; 436/809.000
	ECLA	B01J019/00R; B01L003/00C6M; G01N033/557
WO 9856956	ECLA	B01L003/00C6; B01L003/00C6E; B01L003/00C6M; G01N027/447; G01N027/447B3A2; G01N027/447C7; G01N033/557

AB Electrokinetic devices having a computer for correcting for electrokinetic effects are provided. Methods of correcting for electrokinetic effects by establishing the **velocity** of reactants and products in a reaction in electrokinetic **microfluidic** devices are also

ANSWER 5 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1995:117254 CAPLUS

DN 122:17737

ED Entered STN: 08 Nov 1994

TI The effect of hydrodynamic flow field on colloidal stability

AU Greene, M. R.; Hammer, D. A.; Olbricht, W. L.

CS Sch. Chemical Eng., Cornell Univ., Ithaca, NY, 14853, USA

SO Journal of Colloid and Interface Science (1994), 167(2), 232-46
CODEN: JCISA5; ISSN: 0021-9797

DT Journal

LA English

CC 66-4 (Surface Chemistry and Colloids)
Section cross-reference(s): 9

AB Colloid-colloid interactions are important in understanding the macroscopic properties of following suspensions. In many processes of technol. and biol. interest, it is important to identify conditions which promoter or inhibit colloid aggregation. In this paper, we use trajectory anal. to understand the effect of hydrodynamic and nonhydrodynamic forces on colloidal stability. All linear hydrodynamic flows can be represented in a finite region of the tr L2-determine L plane, where L is the **normalized velocity** gradient tensor with constant magnitude. We calculate the stability ratio W for different flow types, specified by tr L2 and determine L. For purely attractive interparticle potentials, a small region around simple shear flow (tr L2 = 0, determine L = 0) shows uniquely high stability. Small changes in tr L2 or determine L, which are equivalent to changes in the relative magnitude of vorticity or the relative orientation between vorticity and extension, cause a great decrease in stability. Away from simple shear flow, W is independent of changes in flow type for the entire class of linear flows with open streamlines (tr L2 ≥ 0). Interparticle potentials with primary and secondary min. exhibit the same stability as purely attractive potentials as long as the Debye screening lengths is less than a critical value. Greater Debye lengths lead to complete stability ($W \rightarrow \infty$). The critical Debye length depends on **fluid** flow type and the value of inverse critical Debye length correlates with the strength of the flow field. The magnitude of the particle surface potential has little effect on the stability ratio. Taken together, the results show the type of hydrodynamic flow to be an important determinant of the aggregation behavior of colloidal particles. Furthermore, aggregation in simple shear flow is different than that in other linear flows and we caution against extrapolating aggregation behavior in simple shear to more complex **fluid** flow situations.

ST hydrodynamic flow field colloidal stability

IT Colloids
(stability of colloids in hydrodynamic flow field)

ANSWER 2 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1998:715557 CAPLUS

ED Entered STN: 11 Nov 1998

TI Spatial structure of the viscous boundary layer in turbulent convection

AU Qiu, Xin-Liang; Xia, Ke-Qing

CS Department of Physics, The Chinese University of Hong Kong, Shatin, Hong Kong, Peop. Rep. China

SO Physical Review E: Statistical Physics, Plasmas, Fluids, and Related Interdisciplinary Topics (1998), 58(5-A), 5816-5820
CODEN: PLEEE8; ISSN: 1063-651X

PB American Physical Society

DT Journal

LA English

AB We present an exptl. study of the spatial structure of the velocity field in the boundary layer region of a Rayleigh-Be.acte.nard convection cell, using water as the working **fluid**. Our results show that the mean flow, the shear rate, and the viscous boundary layer thickness all change significantly across the conducting horizontal surface of the cell. Moreover, the measurements reveal that the spatial structure of the velocity field in the boundary layer region does not change with the Rayleigh number, in sharp contrast with those found for the thermal boundary layers [S.-L. Lui and K.-Q. Xia, Phys. Rev. E 57, 5494 (1998)]. The **normalized velocity** profiles measured at various positions in the direction of the mean flow and for different Rayleigh number are also found to have an invariant form.

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Belmonte, A; Phys Rev E 1994, V50, P269
(2) Belmonte, A; Phys Rev Lett 1993, V70, P4067
(3) Castaing, B; J Fluid Mech 1989, V204, P1 CAPLUS
(4) Ching, E; Phys Rev E 1997, V55, P1189 CAPLUS
(5) Heslot, F; Phys Rev A 1987, V36, P5870
(6) Lui, S; Phys Rev E 1998, V57, P5494 CAPLUS
(7) Qiu, X; Phys Rev E 1998, V58, P486 CAPLUS
(8) Shraiman, B; Phys Rev A 1990, V42, P3650
(9) Solomon, T; Phys Rev A 1991, V43, P6683 CAPLUS
(10) Solomon, T; Phys Rev Lett 1990, V64, P2382
(11) Thomas, D; J Fluid Mech 1957, V2, P473
(12) Tilgner, A; Phys Rev E 1993, V47, PR2253
(13) Townsend, A; J Fluid Mech 1959, V5, P209
(14) Werne, J; Phys Rev E 1993, V48, P1020
(15) Xia, K; J Opt Soc Am A 1995, V12, P1571
(16) Xin, Y; Phys Rev E 1997, V56, P3010 CAPLUS
(17) Xin, Y; Phys Rev Lett 1996, V77, P1266 CAPLUS
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ANSWER 5 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN

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CODEN: JCISA5; ISSN: 0021-9797

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IT Colloids
(stability of colloids in hydrodynamic flow field)

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AU Qiu, Xin-Liang; Xia, Ke-Qing
CS Department of Physics, The Chinese University of Hong Kong, Shatin, Hong Kong, Peop. Rep. China
SO Physical Review E: Statistical Physics, Plasmas, Fluids, and Related Interdisciplinary Topics (1998), 58(5-A), 5816-5820
CODEN: PLEEE8; ISSN: 1063-651X
PB American Physical Society
DT Journal
LA English
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(17) Xin, Y; Phys Rev Lett 1996, V77, P1266 CAPLUS
(18) Zocchi, G; Physica A 1990, V166, P387

ANSWER 10 OF 10 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:438989 CAPLUS
DN 131:85047
ED Entered STN: 16 Jul 1999
TI Whole blood diagnostics in standard gravity and microgravity by use of **microfluidic** structures (T-sensors)
AU Weigl, Bernhard H.; Kriebel, Jennah; Mayes, Kelly J.; Bui, Todd; Yager, Paul
CS Department Bioengineering, Univ. Washington, Seattle, WA, 98195, USA
SO Mikrochimica Acta (1999), 131(1-2), 75-83
CODEN: MIACAQ; ISSN: 0026-3672
PB Springer-Verlag Wien
DT Journal
LA English
CC 9-5 (Biochemical Methods)
AB In channels with dimensions much less than 1 mm, fluids with viscosities similar to or higher than that of water and flowing at low **velocities** exhibit laminar behavior. This allows the adjacent flow of fluids and particles in a channel without mixing other than by diffusion. The authors demonstrate the use of a 3-input **microfluidic** device known as a T-Sensor for the anal. of blood. A sample solution (e.g. whole blood), a receptor solution (e.g. an indicator solution), and a reference solution (a known analyte standard) are introduced into a common channel (T-Sensor), and How side by side until they leave the structure. Smaller particles such as ions or small proteins diffuse rapidly across the quid boundaries, whereas larger mols. diffuse more slowly. Large particles (e.g. blood cells) show no significant diffusion within the **time** the flow streams are in contact. 2 Interface **zones** are formed between the fluid layers. The ratio of a property (e.g. fluorescence intensity) of the outer portions of the 2 interface **zones** is a function of the concentration of the analyte, and is largely free of cross-sensitivities to other sample components and instrument parameters. This device allows, for example, one-**time** or continuous monitoring of the concentration of analytes in microliters of whole blood without the use of membranes or prior removal of blood cells. The principle is illustrated by the determination of pH and human albumin in whole blood and serum. Results are also presented for 0-gravity expts. performed with a T-Sensor on board a NASA exptl. plane. Due to its **microfluidic** flow characteristics, a T-Sensor functions independently of orientation and strength of the gravitational field. This was demonstrated by exposing a T-Sensor to variations in gravity from 0-1.8 g in a NASA KC135A plane flying repetitive parabolic flight curves.
ST blood analysis pH gravity microgravity microfluidity T sensor; biosensor blood analysis pH microfluidity gravity microgravity; microanalysis blood pH gravity microgravity microfluidity
IT Microanalysis
Space travel
Viscosity
pH
(laminar flow of whole blood in standard gravity and microgravity studied by **microfluidic** structures)
IT Flow
(laminar; Laminar flow of whole blood in standard gravity and microgravity studied by **microfluidic** structures (T-sensors))
IT Fluidization
(microfluidization; whole blood diagnostics in standard gravity and microgravity by **microfluidic** structures (T-sensors))
IT Biosensors
Blood analysis
Gravity
Microgravity

(whole blood diagnostics in standard gravity and microgravity by **microfluidic** structures (T-sensors))

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Afromowitz, M; Sep Sci Tech 1989, V24, P325 CAPLUS
(2) Brody, J; Low Reynolds Number Micro-Fluidic Devices, Solid-State Sensor and Actuator Workshop 1996
(3) Cefai, J; J Micromech Microeng 1994, V4, P172 CAPLUS
(4) Cussler, E; Diffusion, Mass Transfer in Fluid Systems 1984, P525
(5) Einstein, A; Investigations on the Theory of the Brownian Movement 1956, P122
(6) Elwenspoek, M; J Micromech Microeng 1994, V4, P227 CAPLUS
(7) Galambos, P; Transducers 97 (International Conference of Solid-State, Sensors and Actuators) 1997, V1, P535 CAPLUS
(8) Gravesen, P; J Micromech Microeng 1993, V3, P168 CAPLUS
(9) Happel, J; Low Reynolds Number Hydrodynamics, 2nd Ed 1973, P553
(10) Harrison, D; Science 1993, V261, P895 CAPLUS
(11) Manz, A; J High Res Chromatogr 1993, V16, P433 CAPLUS
(12) Weigl, B; Anal Meth Instrum 1996
(13) Weigl, B; Sens Actuators B 1997, V39, P452
(14) Yager, P; US 5716852 1998 CAPLUS
(15) Zengerle, R; J Micromech Microeng 1994, V4, P192 CAPLUS

ANSWER 10 OF 10 CAPLUS

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PB Springer-Verlag Wien

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ST blood analysis pH gravity microgravity microfluidity T sensor; biosensor blood analysis pH microfluidity gravity microgravity; microanalysis blood pH gravity microgravity microfluidity

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IT Biosensors
Blood analysis
Gravity
Microgravity

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